825 other snakes are also viewed as venomous but are claimed to be of mild disposition and do not bite people.

Among the lizards, curiously, the one feared most is not the highly poisonous Gila Monster, but the harmless little gekko, Coelonyx variegatus sonorensis, which lives in fallen and dried-up saguaros. The informants could not even be induced to touch specimens killed in alcohol. It is believed 753 that this creature could kill humans either by contact or by allowing them to inhale its vapors which cause a fatal lung illness. This little lizard is reminiscent of the European salamander in some ways. The Mexicans call it 177 locally "salamanquesa", and attribute to it the same unpleasant traits which the Seris do. Since this little lizard does resemble the European salamander and the beliefs about it are quite similar to those in European folklore, it is possible that here is a case of a transfer of this folklore upon an animal of a different kind. These beliefs eventually perhaps diffused to the Seris.

A small desert night lizard, Xantusia vigilis, is also very much feared and is frequently confused with the gekko. It lives in an identical habitat. A toad, Bufo alvarius, is said to bite with its tongue and is supposed to be able to inject venom with it. Its blood and "milk" are also very toxic.

Several of the arthropods are believed to be dangerous. The Seris claim that the blood sucking cone-nosed beetle, Triatoma rubida, stings with its mouth parts and also causes an illness called eyxhil i ke kmap, which can be fatal to children. This bug actually is a vector of the Chagas disease and its repeated bites may cause a sensitization to them. But in this case it is impossible to tell which is the situation without a clinical analysis. Scorpions, which sting with their tails, are considered to be very dangerous. The Black Widow spider, which is very numerous in the locality, is also viewed as very toxic and is said to be sometimes fatal, although a few days' illness is all that its bite usually causes. The tarantula spider also bites but its venom is never fatal. The Sun spiders, Solifugida, are venomous but their venom supposedly kills horses but not people. All of these spiders and their relatives, according to the informants, sting with the rear end of their body in wasp-like fashion. No medicant is applied on the bite, nature being allowed to take its own course in the recovery.

Concerning other animals, the sting rays are much feared because of the venom in their thorns and their ability to inflict a nasty wound. The bats, according to some informants, can cause disintegration of the body by spitting on it and they also have venom in their tongues, although this belief was not shared by one of the more sophisticated informants.

Only a few animals are considered to be dangerous to eat owing to their toxicity. The toad is one and a little fish, Sphaeroides annulatus, is another. 262 of this fish it is said that "one hundred years ago, a man ate one; he died", hence the avoidance. However, rattlesnakes are eaten with relish; only the head and the part of the body where venom is believed to be located being discarded.

171 The above discussion suggested some of the differences in the attitudes 825 toward animals between the Mexicans and the Seris. While the former fear many,

* 825 heard the Mexicans talk about the dreadful consequences of its bite, and they took them at their word!

However, it will be seen that not one of the snakes is considered to be dangerous in any way on mere handling of its body. Coral snakes, though actually potentially fatal, do not bite readily and often may be handled with impunity.

This then leaves the three lizards and the toad in the category of potentially fatal animals. This is mysterious because not one of these lizards is in any way harmful.

Of these, the leopard lizard (*Crotaphytus*) is dangerous simply through biting and through venom which it has in its teeth. The Seris seemed dubious, somewhat, if this beast could kill other men, but they were sure it could kill them (the Seris). They also denied that wild animals could die from its bite. This situation is difficult to explain except perhaps by an existence of some sort of myth connected with this lizard. It may be also that the vile temper of *Crotaphytus* when captured has persuaded the Seris that any animal so vicious must be dangerous.

But the two little perfectly harmless nocturnal lizards, the gecko and the *Xanthusia*, represents a different stripe of danger, but they are feared just as much as any of the really venomous snakes (rattler) if not more. Neither of them will bite,
●[753] the Seri say, but they'll cause an illness on touch which can be fatal and at best they'll cause an illness of the lungs which can also be fatal. In addition, touching them will cause flesh to fall off one's hands and body. This, the informants explained, was the reason why they were not eaten. That both of them are terribly feared, the gecko even more than the *Xanthusia*, I had examples galore. While collecting with the Seri in the dried-up sahuaros, we encountered a great many of these lizards after breaking up the logs. Invariably the Indians fled and retreated obviously alarmed at the sight of the wiggling little creatures and when I picked them up bare-handed they were altogether shocked. I could not persuade them to touch even later specimens killed in alcohol. Some showed clear fear of picking up or touching the vial in which these lizards were preserved. A good
171 possibility is that this belief is in some ways con-
* 825 nected with the European folklore about the salamander. The gecko is called in the local Spanish *salamancesa* which means salamander. And the salamander, in the European mythology, may inflict harm on people in the very same manner as the gecko is supposed to do. The Mestizos, a good many of them at any rate, also hold similar views. There is a general similarity in the appearance and outward behaviour of the gecko and the salamander and, perhaps, we have here a transfer of

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*825 [171] an idea from one animal to another.[13] The *Xanthusia* does not share this similarity to the salamander in appearance, but it is found along with the gecko and behaves much like the gecko when exposed to the light. Hence, perhaps, comes the association.

I excluded here from the discussion the red racer because the notions concerning it are conflicting, with some informants insisting that it is toxic and can cause death and others that it is not. But all agree that it'll bite—and painfully so.

Finally the toad. The toad, although unagressive and considered as such, is feared a great deal as a repository of all sorts of toxic traits. There was some disagreement as to its ability to bite, with some informants thinking that it does bite with its tongue, others thinking it can't bite at all. But all agree on the following attributes of the amphibian: venom in body, toxic on touch, always fatal to eat to most animals and to all men. In this the toad joins the gecko and the *Xanthusia*. [262] These too are believed to be fatal to eat and these three represent the only animals in this class that are considered inedible.

It is interesting that the list of toxic (though non-fatal) animals should also include the *Phrynosoma* although here there seemed to have been again disagreement between the informants. The lizard is perfectly harmless and actually will not ●[763] bite even in self-defense. But the Seris say it causes swelling.

752 278 For the rattlesnake bite, the remedy is a plant called *Kdsox*. An extract of this plant is made after boiling it in hot water and then it is taken orally. It is also applied to the wound and, the Seri say, it must be taken all day long for a full day. The Seris take this when they are harmed by these snakes. This plant is supposed to be found in the mountains near Kino but not in the Desemboque or Tiburon area. But in addition to their own medicaments, the Seris, especially the younger fellows, will make use of the regular anti-venom available at the school or mission.

Attitudes Toward Reptiles and Amphibians

*825 With the few exceptions, these animals are not particularly feared. Those that are feared are considered dangerous in some ways, and, in fact, most of them are either by their ability to inflict painful bite or by possession of venom. But otherwise, their attitude seems to be very much a matter of fact and one of unconcern, which seems to corroborate Kroeber's opinion of the Seris' psychological makeup in other matters.

[13]Since this has been written, I have plenty of evidence that the gecko is similarly dreaded in many parts of the world.

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+ 825 eyes in front of the body. These are small spots which are different organs but the Seris think they serve as eyes.

Toxic Forms

●753 This group of miscellaneous marine animals
+ 825 contains, according to the Seris, an unusual number of toxic and dangerous forms. Three are considered as nasty and toxic, the *Medusa*, the stinging worm and the regular sea urchin. The least dangerous of these is the sea urchin. Its spines are "sometimes poisonous. When broken off, they stay in the body and it never heals." The Seris, however, are more fearful of the other two. The *Medusa* "is very venomous and dangerous when touched." "It causes great pain, irritation and swelling" and then "it is not fatal. Just 12-13 hours of illness and then . . nothing." The stinging worm is equally bad, the Seris say. "It has spines which sting badly. It causes local swelling for 2-3 days. It has much painful venom but is not fatal."

All these comments are based on observation and reflect pretty much the real situation. There is no exaggeration in them.

Miscellaneous

+ 825 Movements of animals had been observed at least in a few cases. The sea-cucumber they say "walks like the viper," leaving marks on sand. The regular sea urchin walks on its spines which are called *zeppe nosymx* or *zeppé*, meaning sea.

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* 825 it is said to live "in refuse, fish and fish offal and only in the fishing camp." This is one that one must reconcile with the Seris' simultaneous belief that it is parasitic on dogs and that it sucks human blood as well. More difficulty here creates their belief that it is found only in the camp but that the dogs on Tiburon are free from it.

The Phasmids interestingly are associated with trees and sticks, a very correct notion and the Mantids also with the trees.

However, the information is incomplete and apart from the few cases cited above usually contradictory and hazy.

Toxic Insects

Only 19 species out of 92, or little more than 20% of the total, are considered toxic in anyway. Unlike in most of the other phases of the Seri knowledge of the natural history of insects, the natural groupings are quite clear. The three main groups the Seris consider toxic or harmful are the Arachnids, the Arachnoids (*Acarina* included) and the *Hymenoptera*, all very much as one would expect. In addition few beetles and bugs complement the list of the dangerous creatures. tures.

Among the *Hymonoptera* are all of the species listed, with the exception of the bee. This may be due to the fact that the bee in the Seri country is the stingless Melipoind (?). Of the toxic kind, *Pepsis* (the Tarantula hawk) is probably most feared. The sting the Seris think is very painful but disappears after a few minutes as it contains little venom. A plant is applied to the bite and also taken internally with hot water. The *Pepsis* must be really feared because the informants assured me it was one insect the children preferred not to play with—an excellent confirmation of the caution. *Chlorion aeriatus*, the Sphecid wasp, induces similar symptoms by its sting. Here as a cure, Vic's mentholate tablets were said to be used, smeared on the injured spot. This cure is also applied by the Mexicans and the Seris probably adopted it from them. The sting of this wasp is considered more dangerous to children than to adults. The Velvet wasps[15] (Multillids) are also supposed to sting with the rear of the body causing some pain. Finally the *Hemisia*, and Anthrophorid bee inflict a good bite but otherwise are harmless.

[152] [157] [752] [177] [753]

Arachnids on the whole are more feared than the *Hymenoptera* and include what the Seris believe to be the most dangerous of all terrestrial arthropods, with a very good justification. The effects of the damage inflicted by these creatures is more lasting and overpowering. The Black Widow easily takes first place and is feared as much as the gecko or the rattler. Some Seris even claim it is the most dangerous of all creatures. It may cause death, they say, although usually one can do with a 2-3 day illness. However, to small children the bite (or as they say "sting" owing

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[15] *Ptiloglossa mexicana* causes swelling and much pain lasting 2-3 hours and is considered most unpleasant of all Hymenopterans.

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* 825 to the belief that the spider stings with the rear of the body) may cause death in 2-3 hours. It may [753] also kill chicks and one of the informants, Jose Juan Moreno, claimed to have been paralized by the sting of the Black Widow for eight days . . . . [158] However, Juan is a good hypochondriac, and even when not apt to exaggerate, he may have suffered a genuine trauma owing to an encounter with this spider. While smaller spiders are not considered too dangerous, the *Tarantula* is. It can both bite with its jaws and sting with the rear end of the [753] body and it is said to be more dangerous to children—it may cause their death at times. The adults will weather its attack but will become quite ill. [752] As remedy for its bite, a plant *quivira* is used as a hot extract taken in a small glass for 2-3 days.

Almost all of the animals closely related to the Arachnoids, the scorpion, the Sun spider, *Scolopendra* and the tick, are also venomous in the Seri view. Of these, the scorpion is most feared, and in adults it will cause illness lasting up to a week while to very small children it may be fatal. As a proof the informants mentioned a six months old [165] girl recently stung by a scorpion who died in less than six hours—the fact confirmed by the Mexicans in the village. Remedy for this is similar to [762] others—a plant called *amx.xuháy* is drank with hot water for three days, a glass per day.

The Sun spider, also armed supposedly with a sting at its rear, is said to be fatal to horses for whom there is no remedy. This is a pure fiction, [177] but the belief is common among the Mexicans and the Seris certainly took it up from them. But no one suggested that the Sun spiders are in any way harmful to men although they are avoided, just in case.

The *Scolopendra* is considered very dangerous, much like a viper. It bites badly but is not fatal. Actually, the story probably concerns another species, for *Scolopendra malkini* has only recently been described and is rare in Desemboque.

The tick's unpleasant traits had already been discussed under another heading. All that is essential to add is a belief that in addition to other ex- [753] ploits it can enter a person's ear causing much pain and that for this reason it is particularly bad for the children, as there is no remedy.

There remain three more species of various degree of toxicity. Of these, the *Triatoma* is most conspicuous both for its effects and factual observation. This blood sucker bites with its mouth parts [753] and introduces illness called by the Seri *syexhis. ?e . kemep* which may end fatally. People of all sexes and ages are subject to it equally, and the illness may last three months, and there is no

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Malkin E-5 (1953-1955)1962 NU31 Seri NU31

825 known remedy. This bug is actually a vector of the [753] Chagas disease. Its repeated bites may cause al- [164] lergic sensitization. For lack of clinical observation it is impossible to determine the exact nature of its effects, as the Seris describe them.

The remaining two creatures are both beetles. *Calosoma* is thought a nuisance rather than a danger. Its disagreeable habit is spitting out poison through the rear end of the body which may [753] cause headache for a brief while. To this I may readily attest having on more than one occasion be subjected to *Calosoma's* bombardment. However, at worst it is a mere irritant. Finally *Hippomelas*, sometimes confused with the *Steriphanus* and *Dermestes* are supposedly evil smelling but not harmful.

Finally the male *Arenivaga*, considered separate from the female, the Seris claim also bites with the mouth but it is not dangerous.

What is little surprising is that the Seris did not include in their list a few other insects that could have readily found their way into the "dangerous" gallery. The huge water bug *Leptocerus* of course bites, although the Seris claim it does not. An aquatic insect par excellence, it simply never had a chance to prove to them what it can do. The Pentatomid bug *Rhytidolomia* at least may be included among the stinging variety, although it is perfectly harmless. Finally there are various Reduviid bugs, notorious carnivores, which when disturbed and offered an opportunity will sting painfully. But here again, the Seris may not have played enough with them to find out.

On the whole, the Seris are well informed concerning possible dangers from various insects. As a matter of practical application, they do in this regard far better than the Mexicans."

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278 "The Seris may have used a concoction of insects in arrow poisoning. McGee quotes Hardy who had visited them in 1825 as follows:

> "It is believed that the Ceres Indians have discovered a method of poisoning their arrows and that they do in that way: They kill a cow and take from it its liver. They then collect a number of rattlesnakes, scorpions, centipedes and tarantulas, which they confine in a hole with the liver. The next process is then to beat them with the sticks in order to enrage them, and being thus infuriated, they fasten their fangs and exhaust their venom upon each other and upon the liver. When the hole mass is in high state of corruption, the old women take the arrows and pass the point through it. They are then allowed to dry in the shade and it is said that the wound inflicted by them will prove fatal. Others again say that the poison is obtained from the juice of the yerba de flecha (arrow wort)."

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